

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2004/001057

| A. CLASSIFICATION OF SUBJECT MATTER Int. Cl. ⁷ : G01N 33/68 According to International Patent Classification (IPC) or to both national classification and IPC | | |
|--|--|---|
| B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) See "electronic data base" box below Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched See "electronic data base" box below Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) MEDLINE, CAPLUS, WPIDS: glut, glut1, glut4, traffic?, translocat?, tag, marker, ligand, bind, bound, receptor, lys?, disrupt?, permeabilis?, rupture?, assay, process, method, level | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | |
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| A | US 6 303 373 B1 (BOGAN et al.) 16 October 2001 Whole specification | 1(in part), 2-62 |
| P,A | US 6 632 924 B2 (BOGAN et al.) 14 October 2003 Whole specification | 1(in part), 2-62 |
| A | US 5 989 893 A (CZECH et al.) 23 November 1999 Whole specification | 1(in part), 2-62 |
| A | SLOT, J.W. et al., "Translocation of the glucose transporter GLUT4 in cardiac myocytes of the rate", Proc. Natl. Acad. Sci. USA, September 1991, Vol. 88, pages 7815-7819 Whole article | 1(in part), 2-62 |
| <input type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex | | |
| * Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family | | |
| Date of the actual completion of the international search 7 February 2005 | | Date of mailing of the international search report 21 FEB 2005 |
| Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No. (02) 6285 3929 | | Authorized officer JAMIE TURNER Telephone No : (02) 6283 2071 |

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| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|---|--|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| A | HANEY, P.M., "Intracellular Targetting of the Insulin-regulatable Glucose Transporter (GLUT4) Is Isoform Specific and Independent of Cell Type", The Journal of Cell Biology, August 1991, Vol. 114, No. 4, pages 689-699 Whole article | 1(in part), 2-62 |
| X | WANG et al., "GLUT4 Translocation by Insulin in Intact Muscle Cells: Detection by a fast and Quantitative Assay", FEBS Letters, 1998, Vol. 427, pages 193-197 See especially paragraph 3.4 at page 195 | 1(in part), 2-62 |

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
Claim 1 is not limited to the technical features of the invention described in the international application. Clearly, there is support only for the determination of membrane transport proteins which are glucose transport (GLUT) proteins, notably GLUT1 and GLUT4. Because claim 1 is not limited to the detection of GLUT proteins it is not considered limited to the technical features of the invention.
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No:

It should be noted that an amended page 108, containing amendments to claims 53 and 54, was filed 5 October 2004 with the International Bureau. Unfortunately, because these amendments were not filed in the time frame referred to in Article 19 and Rule 46.1, these amendments cannot be considered under Art. 19. However, it should be noted that the subject matter of claims 53-54 (as if they were amended) was nevertheless the subject of the International Search Report. Further, it is apparent that the amendments to these pages do not go beyond the disclosure of the international application as filed.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

| Patent Document Cited in Search Report | | | | Patent Family Member | | | |
|---|---------|----|------------|----------------------|------------|----|---------|
| US | 6303373 | AU | 54775/00 | EP | 1189943 | US | 6632924 |
| | | US | 2002052012 | US | 2002155479 | WO | 0075188 |
| | | WO | 02059299 | | | | |
| US | 5989893 | AU | 78448/94 | EP | 0721508 | WO | 9509240 |
| Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001. | | | | | | | |
| END OF ANNEX | | | | | | | |